

# College Astronomy and Astrobiology Teaching Excellence Workshops

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As part of the education and public outreach efforts of the NASA Astrobiology Institute, JPL Navigator and Spitzer EPO Programs, astronomy educators affiliated with the Conceptual Astronomy and Physics Education Research (CAPER) Team at the University of Arizona's LAPLACE Astrobiology node are conducting a series of two- and three-day teaching excellence workshops for college faculty. These regional workshops are being held at community colleges and liberal arts universities around the country and in conjunction with professional society meetings and through the infrastructure of the National Science Foundation's Summer Chautauqua Workshop program. These interactive teaching excellence workshops focus on dilemmas astronomy and astrobiology teachers face and develop practical solutions for the troubling issues in curriculum, instruction, and assessment. After reviewing the latest research about how students learn, participants define and set measurable student learning goals and objectives for students in their astronomy courses and construct effective courses. To improve instruction, participants learn how to create productive learning environments by using interactive lectures, peer instruction, engaging demonstrations, collaborative groups, and tutorials. Participants also learn how to write more effective multiple-choice tests and implement authentic assessment strategy. Texts used at the workshop include: (i) *Learner-Centered Astronomy Teaching*, Slater and Adams, Prentice Hall, 2002; (ii)

Great Ideas for Teaching Astronomy, Pompea, Brooks Cole, 2000; Insights into the Universe, Slater and Zeilik, (iv) Lecture-Tutorials for Introductory Astronomy, Adams, Prather, & Slater, Prentice Hall, 2005, and (v) Life in the Universe Activities Manual, Prather, Offerdahl, & Slater, 2003.